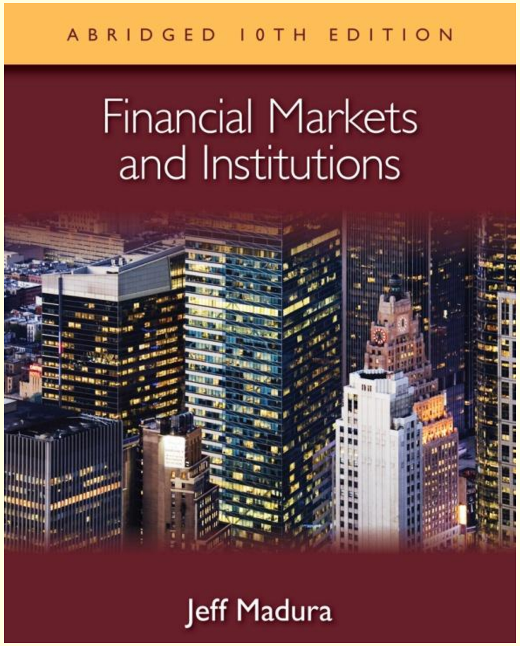
Financial Markets and Institutions

Abridged 10th Edition

by Jeff Madura



23 Mutual Fund Operations

Chapter Objectives

- provide a background on mutual funds
- describe the various types of stock and bond mutual funds
- describe the performance of mutual funds
- describe key characteristics of money market funds
- describe other types of funds

Background on Mutual Funds

- Mutual funds serve as a key financial intermediary.
- Mutual funds provide an important service for individual investors who wish to invest funds.
- Mutual funds are sometimes referred to as open-end funds because they are open to investors, meaning that they will sell shares to investors at any time. In addition, they allow investors to sell (redeem) the shares back to the fund at any time.
- Mutual funds have grown at a rapid pace over time.

Exhibit 23.1 How Mutual Funds Finance Economic Growth

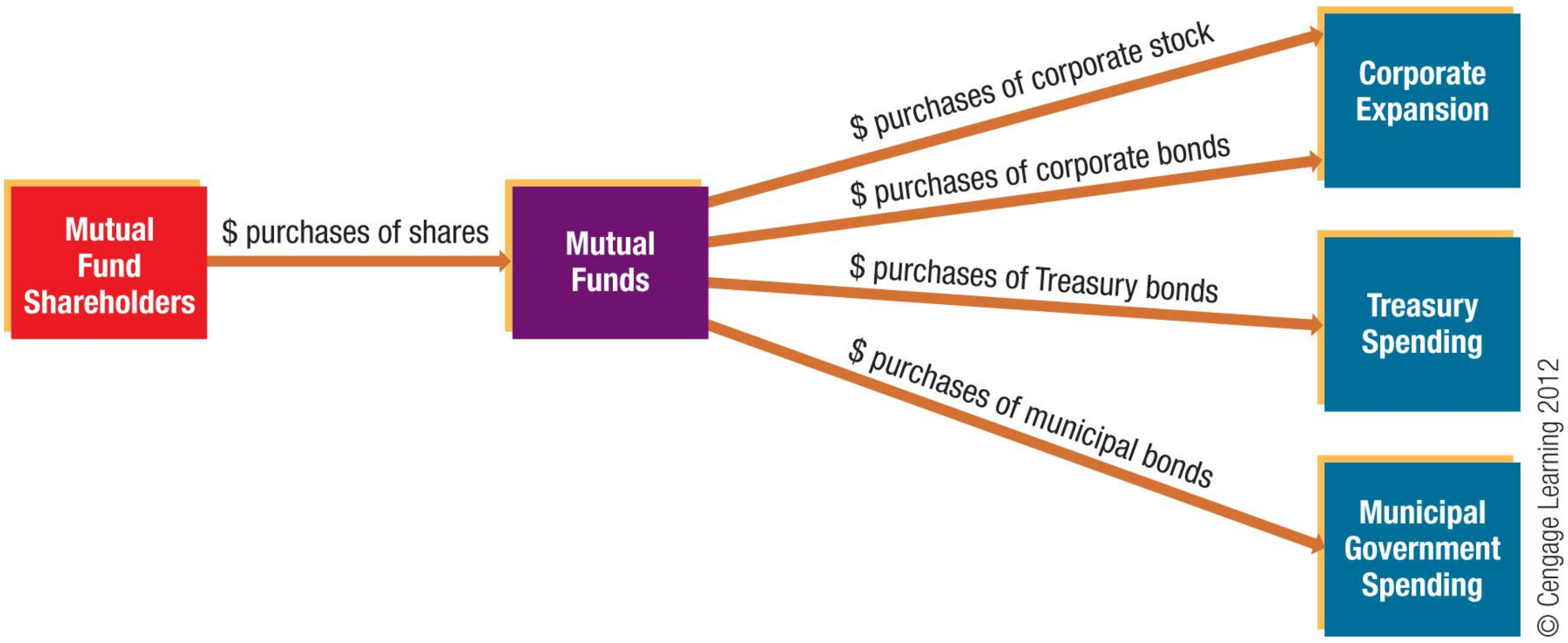
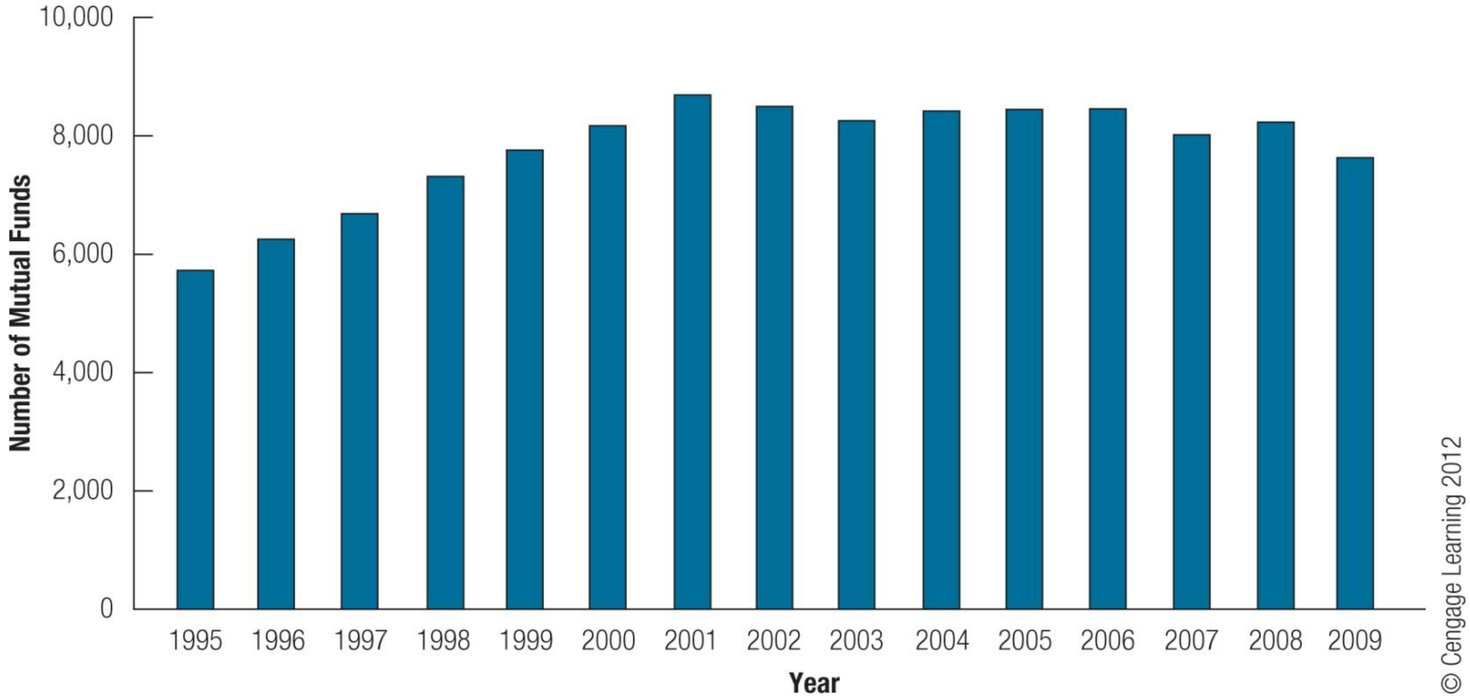


Exhibit 23.2 Growth in Mutual Funds



Note: The numbers shown here include money market funds.

Source: Investment Company Institute.

Pricing Shares of the Mutual Fund

- The price per share of a mutual fund is equal to the net asset value (NAV) per share, which represents the value of the portfolio (per share) after accounting for expenses incurred from managing the fund.
- When a mutual fund pays its shareholders dividends, its NAV declines by the per share amount of the dividend payout.

Mutual Fund Distributions to Shareholders

Funds can generate returns to their shareholders in three ways.

1. First, they can pass on any **earned income** (from dividends or coupon payments) as dividend payments to the shareholders.
2. Second, they distribute the **capital gains** resulting from the sale of securities within the fund.
3. A third type of return to shareholders is through mutual fund share **price appreciation**.

Regulation of Mutual Funds

Information Contained in a Prospectus.

- The minimum amount of investment required.
- The investment objective of the mutual fund.
- The return on the fund over the past year, the past three years, and the past five years, in comparison to a broad market index.
- The exposure of the mutual fund to various types of risk.
- The services (such as check writing, ability to transfer money by telephone, etc.) offered by the mutual fund.
- The fees incurred by the mutual fund (such as management fees) that are passed on to the investors.
- Names of their portfolio managers and the length of time that they have been employed by the fund in that position.

Background on Mutual Funds

Management of Mutual Funds

Each mutual fund is managed by one or more portfolio managers, who must focus on the stated investment objective of that fund.

- **Interaction of Mutual Funds with Other Financial Institutions**
  - The managing of a mutual fund sometimes leads to interaction with other financial institutions.
  - Some mutual funds are owned by commercial banks.
- **Mutual Fund Use of Financial Markets**
  - Each type of mutual fund uses one or more financial markets to manage its portfolio.

Exhibit 23.3 Interaction between Mutual Funds and Other Financial Institutions

TYPE OF FINANCIAL INSTITUTION	INTERACTION WITH MUTUAL FUNDS
Commercial banks and savings institutions (SIs)	• Money market mutual funds invest in certificates of deposit at banks and SIs and in commercial paper issued by bank holding companies. • Some commercial banks (such as Citigroup and J.P. Morgan Chase) have investment company subsidiaries that offer mutual funds. • Some stock and bond mutual funds invest in securities issued by banks and SIs.
Finance companies	• Some money market mutual funds invest in commercial paper issued by finance companies. • Some stock and bond mutual funds invest in stocks and bonds issued by finance companies.
Securities firms	• Mutual funds hire securities firms to execute security transactions for them. • Some mutual funds own a discount brokerage subsidiary that competes with other securities firms for brokerage services
Insurance companies	• Some stock mutual funds invest in stocks issued by insurance companies. • Some insurance companies (such as Kemper) have investment company subsidiaries that offer mutual funds. • Some insurance companies invest in mutual funds.
Pension funds	• Pension fund portfolio managers invest in mutual funds.

Exhibit 23.4 How Mutual Funds Utilize Financial Markets

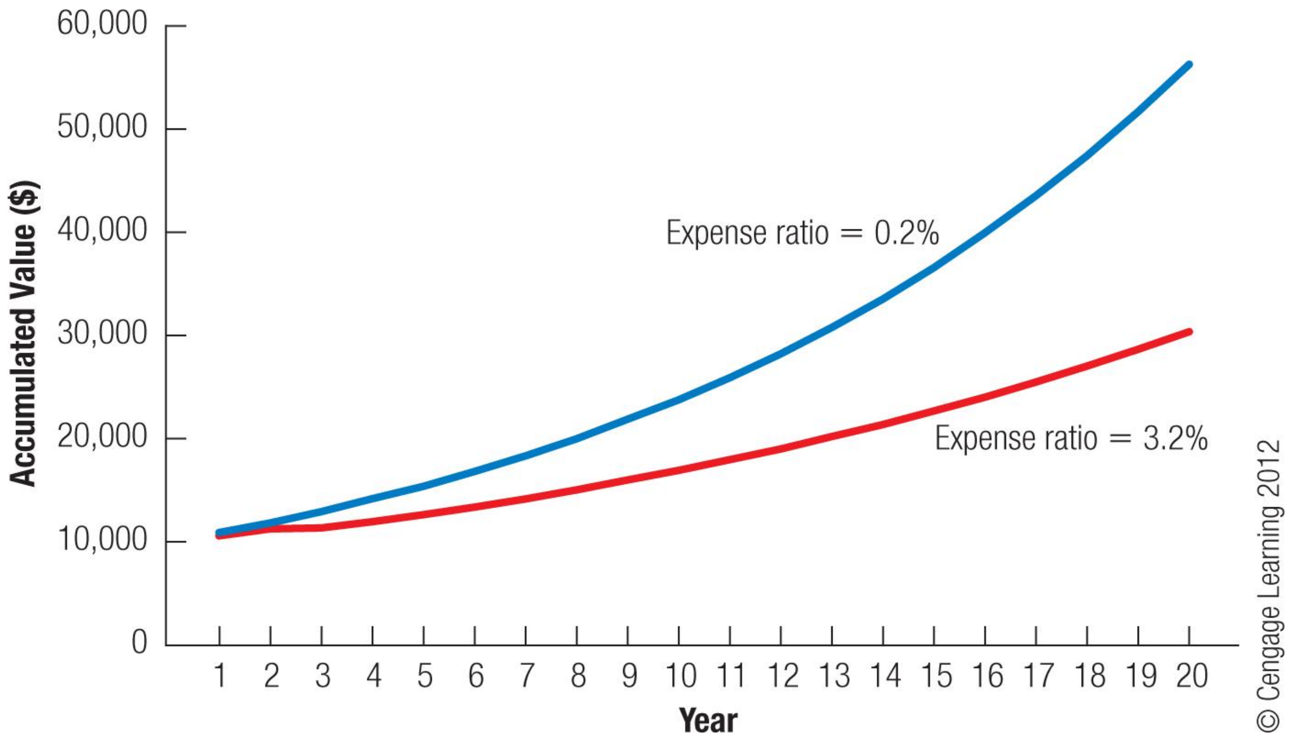
TYPE OF MARKET	HOW MUTUAL FUNDS USE THAT MARKET
Money markets	• Money market mutual funds invest in various money market instruments, such as Treasury bills, commercial paper, banker's acceptances, and certificates of deposit.
Bond markets	• Some bond mutual funds invest mostly in bonds issued by the U.S. Treasury or a government agency. Others invest in bonds issued by municipalities or firms. • Foreign bonds are sometimes included in a bond mutual fund portfolio.
Mortgage markets	• Some bond mutual funds invest in bonds issued by the Government National Mortgage Association (GNMA, or "Ginnie Mae"), which uses the proceeds to purchase mortgages that were originated by some financial institutions.
Stock markets	• Numerous stock mutual funds purchase stocks with various degrees of risk and potential return.
Futures markets	• Some bond mutual funds periodically attempt to hedge against interest rate risk by taking positions in interest rate futures contracts.
Options markets	• Some stock mutual funds periodically hedge specific stocks by taking positions in stock options. • Some mutual funds take positions in stock options for speculative purposes.
Swap markets	• Some bond mutual funds engage in interest rate swaps to hedge interest rate risk.

Background on Mutual Funds

Expenses Incurred by Mutual Fund Shareholders

- Mutual funds pass their expenses to shareholders.
- The expenses include compensation to the portfolio managers and other employees, research support, recordkeeping and clerical fees, and marketing fees.
- **Sales Charge** - Mutual funds may be referred to as either as a load fund or a no-load fund.
  - **Load funds** are promoted by registered representatives of brokerage firms, who earn a sales charge upon the investment in the fund (commonly referred to as a front-end load) ranging between 3 and 8.5 percent.
  - **No-load funds** are promoted strictly by the mutual fund of concern, thereby avoiding an intermediary.

Exhibit 23.5 How the Accumulated Value Can Be Affected by Expenses (Assume Initial Investment of $10,000 and a Return before Expenses of 9.2 Percent)



Background on Mutual Funds

Expenses Incurred by Mutual Fund Shareholders (Cont.)

- **12b-1 Fees**
  - Some mutual funds charge shareholders a 12b-l fee (in reference to SEC rule 12b-l) as part of the fund's annual expenses to cover administrative or marketing expenses.
  - These fees are controversial because many mutual funds do not clarify how they use the money received from the fees.

Governance of Mutual Funds

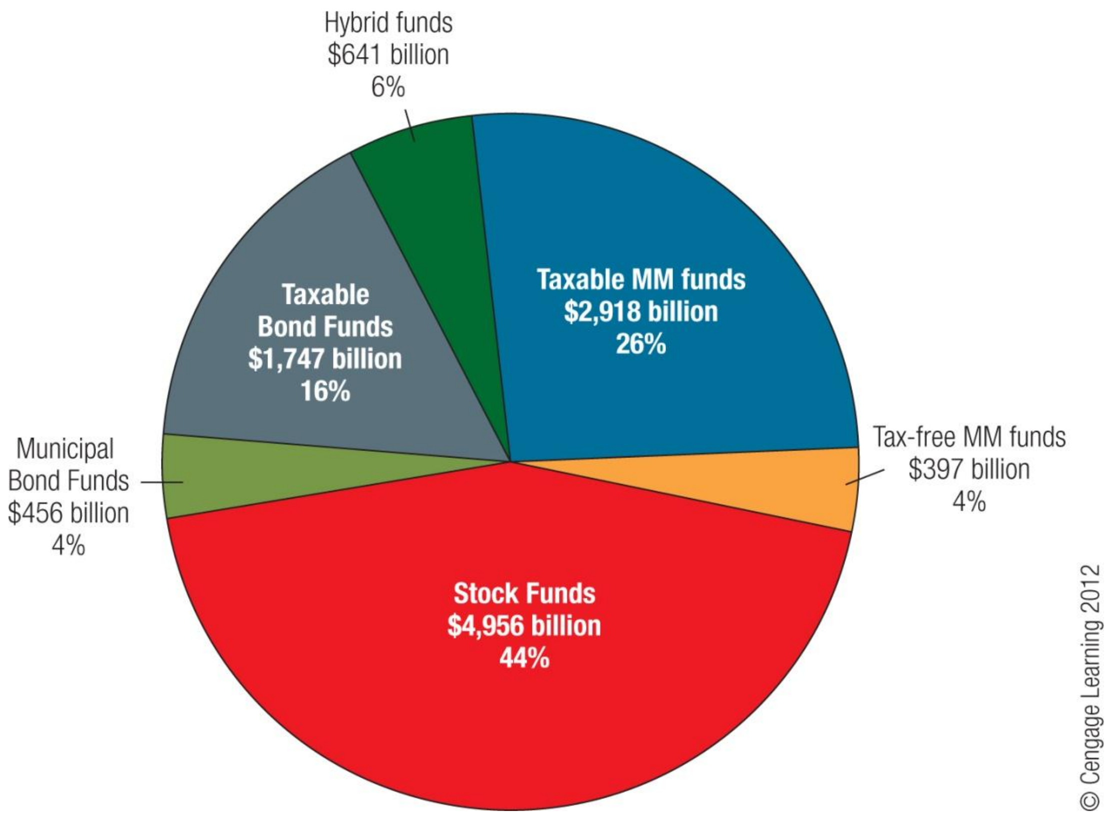
- Usually run by an investment company whose owners are different from the shareholders in the mutual funds.
- Each mutual fund has a board of directors that is supposed to represent the fund's shareholders.
- Mutual funds also have a compliance officer who is supposed to ensure that the fund's operations are in line with its objective and guidelines for trading.

- **Governance of Corporations by Mutual Funds** Regardless of whether mutual funds monitor their own management effectively, they have the power to monitor the management of the firms in which they invest.

Mutual Fund Categories

- Mutual funds are classified as
  - Stock (or equity) mutual funds
  - Bond mutual funds
  - Money market funds
- Stock funds are dominant when measured by the market value of total assets among mutual funds.

Exhibit 23.6 Distribution of Investment in Mutual Funds



Source: Investment Company Institute.

Stock Mutual Fund Categories

- **Growth Funds**
  - Typically composed of stocks of companies that have not fully matured and are expected to grow at a higher than average rate in the future.
  - The primary objective is to achieve an increase in the value with less concern about the generation of steady income.
- **Capital Appreciation Funds**
  - Also known as **aggressive growth funds** - Composed of stocks that have potential for very high growth but may also be unproven.
  - These funds are suited to investors who are willing to risk a possible loss in value.

Stock Mutual Fund Categories

- **Growth and Income Funds**
  - Contains a unique combination of growth stocks, high-dividend stocks, and fixed-income bonds.
  - For investors looking for potential for capital appreciation along with some stability in income.
- **International and Global Funds**
  - Created to enable investors to invest in foreign securities without incurring excessive costs.
- **Specialty Funds**

  a. Focus on a group of companies sharing a particular characteristic.

Stock Mutual Fund Categories

- **Index Funds**
  - Composed of stocks that, in aggregate, are expected to move in line with a specific index.
  - These funds may be attractive to investors who wish to invest in a particular foreign market but do not have much knowledge about the specific stocks in that market.
- **Multifund Funds**
  - Invest in a portfolio of different mutual funds.
  - Investors incur two types of management expenses: (1) the expenses of managing each individual mutual fund and (2) the expenses of managing the multifund mutual fund.

Bond Mutual Fund Categories

- **Income Funds**
  - Composed of bonds that offer periodic coupon payments and vary in exposure to risk.
  - Best suited for investors who rely on the fund for periodic income and plan to maintain the fund over a long period of time.
- **Tax-Free Funds**
  - Mutual funds containing municipal bonds
  - Allow investors in high tax brackets with even small amounts of money to avoid taxes while maintaining a low degree of credit risk.

Bond Mutual Fund Categories

- **High-Yield (Junk) Bond Funds**
  - Typically, the bonds are issued by highly leveraged firms.
  - Investors desiring high returns and willing to incur high risk may consider bond portfolios with at least two-thirds of the bonds rated below Baa by Moody's or BBB by Standard & Poor's.
- **International and Global Bond Funds**
  - Contain bonds issued by corporations or governments based in other countries.
- **Maturity Classifications**
  - Commonly segmented according to the maturities of the bonds they contain.

Mutual Fund Categories

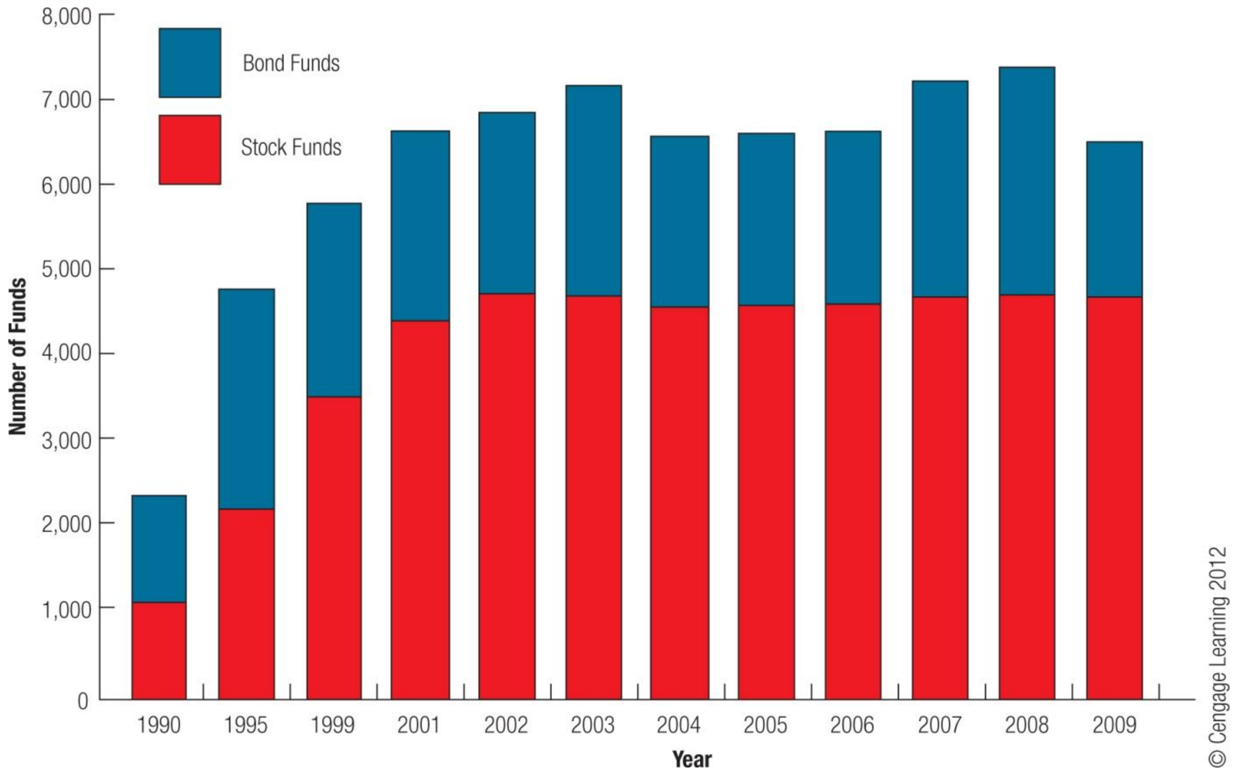
Asset Allocation Funds

- Contain a variety of investments (such as stocks, bonds, and money market securities).
- These funds may even concentrate on international securities if the portfolio managers forecast favorable economic conditions in foreign countries.

Growth and Size of Mutual Funds

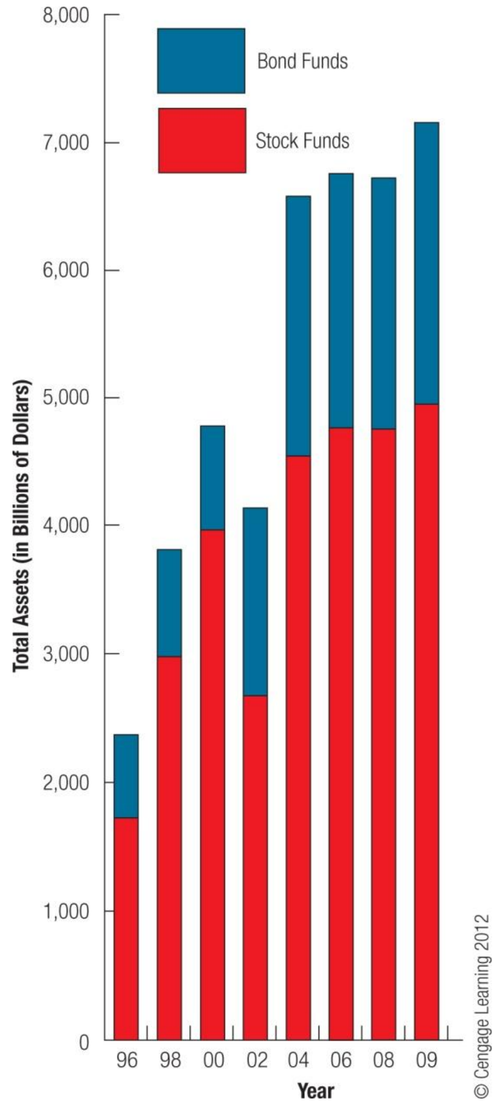
- In the 1980s, investment in bond funds exceeded that of stock funds, but since the mid-1990s, investment in stock funds has been higher.

Exhibit 23.7 Growth in the Number of Stock Funds and Bond Funds



Source: Investment Company Institute.

Exhibit 23.8 Investment in Bond and Stock Mutual Funds



Source: Investment Company Institute.

Valuation of Stock Mutual Funds

- **Change in Market Conditions**
  - A change in a stock mutual fund's valuation is related to a change in stock market conditions.
  - Beta measures the sensitivity of a mutual fund's exposure to a change in stock market conditions.
- **Change in Sector Conditions**

  The valuation of a stock mutual fund focused on a specific sector is influenced by conditions in that sector.
- **Change in Management Abilities**

  Mutual funds in the same sector can experience differences in valuation because of differences in management abilities.

Valuation of Bond Mutual Funds

- **Change in the Risk-Free Rate**

  The prices of bonds tend to be inversely related to changes in the risk-free interest rate.

- **Change in the Risk Premium**

  The prices of bonds tend to decline in response to an increase in the risk premiums required by investors who purchase bonds.

- **Change in Management Abilities**

  The performance levels of bond mutual funds in a specific bond classification can vary because of differences in the abilities of the funds' portfolio managers.

Performance from Diversifying among Funds

- The performance of a mutual fund may be driven by a single economic factor.
- Diversification among types of mutual funds can reduce the volatility of returns on the overall investment.

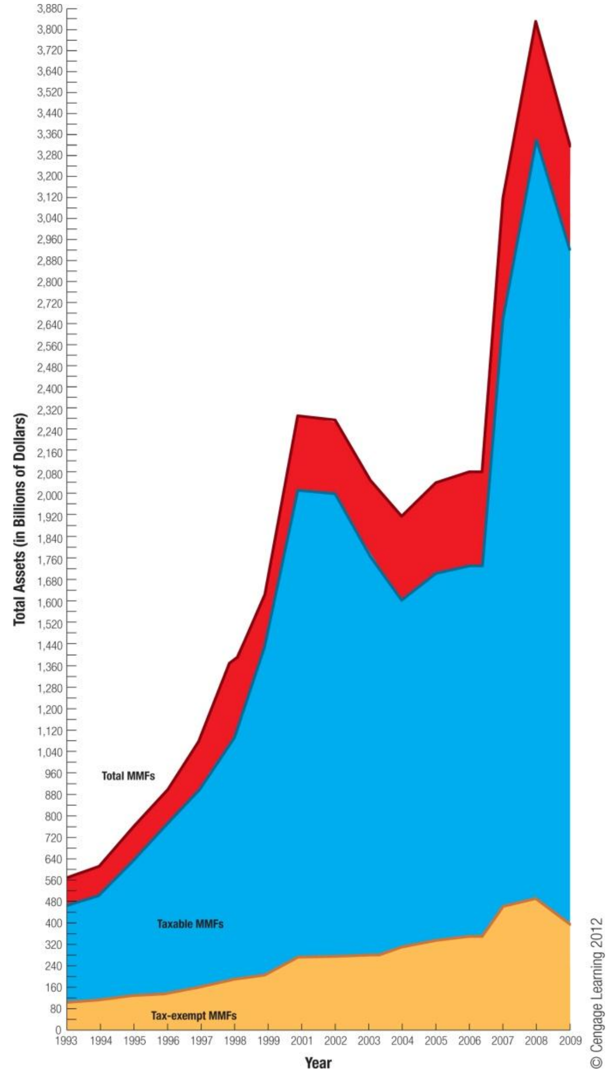
Research on Mutual Fund Performance

- Studies have attempted to assess mutual fund performance over time.
- Most studies that assess mutual fund performance find that mutual funds do not outperform benchmarks, especially when accounting for the type of securities that each fund invests in.

Money Market Funds

- Money market mutual funds, called money market funds (MMFs), sell shares to individuals and use the proceeds to invest in money market (short-term) instruments for their investors.
- The main difference between money market funds and mutual funds is that money market funds focus their investment in money market securities.
- MMFs can be distinguished from one another and from other mutual funds by the composition, maturity, and risk of their assets.

Exhibit 23.9 Growth in Money Market Fund Assets



Source: Investment Company Institute.

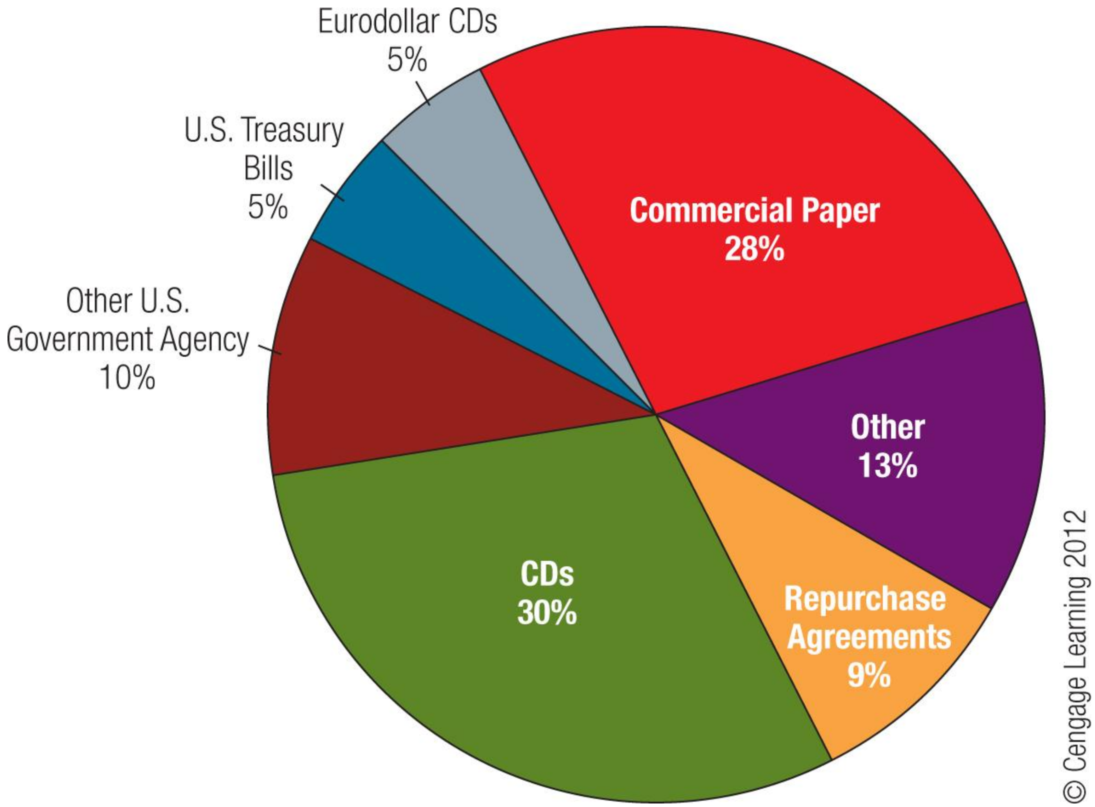
Asset Composition of Money Market Funds

Commercial paper, CDs, repurchase agreements, and Treasury securities are the most common components.

Risk of Money Market Funds

- MMFs usually have a low level of credit risk because the money market securities they invest in have low credit risk.
- Exposure to interest rate risk is low.
- MMFs are normally characterized as having relatively low risk and low expected returns and so are popular among investors who need a conservative investment medium.

Exhibit 23.10 Composition of Taxable Money Market Fund Assets in Aggregate



Source: Investment Company Institute.

Management of Money Market Funds

The role of MMF portfolio managers is to maintain an asset portfolio that satisfies the underlying objective of a fund.

- **Shifting Investments among Money Market Funds**
  - Investors who are concerned about a potential increase in credit risk can move their money into MMFs that are heavily invested in Treasury bills.
  - If investors expect rising interest rates, they can move their money into MMFs that are heavily invested in securities with very short-term maturities.

Other Types of Funds

Closed-End Funds

- Issue shares and use the proceeds to make investments in stocks or bonds representing a particular sector or country for their investors.
- Some closed-end funds engage in secondary offerings of new shares and use the proceeds to expand their investment portfolios.
- **Market Price of Closed-End Funds**

  The market price of a closed-end fund can deviate from the aggregate value of the underlying stocks (measured by net asset value per share).

Other Types of Funds

Exchange-Traded Funds

- Designed to mimic particular stock indexes and are traded on a stock exchange just like stocks.
- Exchange-traded funds have become very popular in recent years because they are an efficient way for investors to invest in a particular stock index.
- One disadvantage of ETFs is that each purchase of additional shares must be executed through the exchange where they are traded.
- **Short Sales of ETFs** - Like closed-end funds, ETFs can be sold short.

Exchange-Traded Funds

- **Popular ETFs**
  - Exchange-traded funds are classified as broad based, sector, or global, depending on the specific index that they mimic.
  - The broad-based funds are the most popular, but both sector and global ETFs have experienced substantial growth in recent years.
  - A popular ETF is the PowerShares QQQ, or Cube (its trading symbol is QQQQ), which represents the Nasdaq 100 index of technology firms.
  - Another popular ETF is the Standard & Poor’s Depository Receipt (SPDR or Spider), which represents the S&P 500 index.

Other Types of Funds

Venture Capital Funds

- Venture capital (VC) funds use money that they receive from wealthy individuals and some institutional investors to invest in companies.
- Invested monies are pooled and used to create a diversified equity portfolio.
- Venture capital funds tend to focus on technology firms, which have the potential for high returns but also exhibit a high level of risk.
- A VC fund typically plans to exit from its original investment in a business within about four to seven years.

Other Types of Funds

Private Equity Funds

- Private equity funds pool money provided by individual and institutional investors and buy majority (or entire) stakes in businesses.
- When a private equity fund purchases a business, it assumes control and is able to restructure the business in a manner that will improve its performance.
- **The Market for Private Equity Businesses**
  - The potential to capitalize on inefficiencies in this market has attracted much more investment in private equity and has led to the creation of many new private equity funds.

Other Types of Funds

Hedge Funds

- Sell shares to wealthy individuals and financial institutions and use the proceeds to invest in securities.
- They differ from open-end mutual funds in several ways.
  - Require a much larger initial investment (such as $1 million).
  - Many hedge funds are not “open” in the sense that they may not always accept additional investments or accommodate redemption requests unless advance notice is provided.
  - Hedge funds have been subject to minimal regulation.
  - Hedge funds invest in a wide variety of investments to achieve high returns.

Hedge Funds

- **Use of Financial Leverage**
  - Use borrowed funds to complement the equity that they receive and invest.
  - The use of financial leverage allows them to make more investments with a given amount of equity and can magnify the returns.
- **Hedge Fund Fees**
  - Hedge funds charge a management fee of between 1 and 2 percent of the investment per year.
  - In addition, they charge an **incentive fee** that is based on the return of the fund. The typical incentive fee is 20 percent of the return.

Other Types of Funds

Hedge Funds

- **Financial Problems Experienced by LTCM**
  - One of the best-known hedge funds was Long-Term Capital Management (LTCM), which was created in 1994 and managed by a group of partners who had a very strong track record.
  - LTCM had investments in relatively risky bonds and lost more than $2 billion, or about 40 percent of its total equity.
  - On September 23, 1998, the Federal Reserve Bank of New York organized a rescue of LTCM by 14 large commercial banks and securities firms.

Hedge Funds

- **Performance of Hedge Funds during the Credit Crisis**

  Some hedge funds failed during the credit crisis in 2008 because they had invested heavily in mortgage related securities just before subprime mortgage values collapsed.

- **Short Selling by Hedge Funds**
  - One reason for the success of some hedge funds is that they can take a very large short position (selling stocks that they do not own) on overvalued stocks.
  - During the credit crisis in 2008, hedge funds were accused of making market conditions worse by taking short positions in some of the financial institutions that held subprime mortgages or other mortgage-related securities.

Hedge Funds

- **Madoff Fund Scandal**
  - Bernard Madoff managed a large and well-respected hedge fund that included various institutions, charities, and wealthy individuals among its investors.
  - Madoff admitted that he had been periodically using money from new investors to pay off investors who wanted to cash out of the fund.
  - The potential losses to investors were estimated to be as high as $50 billion, making this possibly the biggest financial scandal in U.S. history.

Other Types of Funds

Hedge Funds

- **Hedge Funds of Funds**

  Some "hedge funds of funds" have been created to pool smaller investments by individuals and invest in hedge funds.

Other Types of Funds

Hedge Funds

- **Regulatory Reform of Hedge Funds**
  - The Financial Reform Act of 2010 contained provisions to stabilize the financial system.
  - Mandates that hedge funds managing more than $100 million register with the SEC as investment advisors.
  - Must also disclose financial data that can be used by the Financial Stability Oversight Council (created by the Financial Reform Act) in order to assess systemic risk in the financial system.
  - Prevents commercial banks from investing more than 3% of their capital in hedge funds, private equity funds, or real estate funds.

Other Types of Funds

Real Estate Investment Trusts

- A closed-end fund that invests in real estate or mortgages.
- Real estate investment trusts can be classified as
  - Equity REITs, which invest directly in properties
  - Mortgage REITs, which invest in mortgage and construction loans
  - Hybrid REITs, which invest in both properties and mortgages.
- **Impact of Credit Crisis on REITs**
  - Many mortgages experienced late payments or default, leading to losses at mortgage REITs.

SUMMARY

- Mutual funds accommodate financing needs of corporations, the Treasury, and municipal governments by purchasing newly issued stocks and bonds in the primary market. They also frequently purchase securities in the secondary market. They enable individual investors to diversify their investments with a limited amount of funds. The more common types of mutual funds include capital appreciation funds, growth and income funds, income funds, tax-free funds, high yield funds, international funds, global funds, asset allocation funds, and specialty funds.

SUMMARY (Cont.)

- The performance of stock mutual funds is highly influenced by the stock market conditions, the prevailing conditions of the sectors in which the mutual fund invests, and the management abilities of their portfolio managers. The performance of bond mutual funds is relatively strong in periods when interest rates decline and when the credit risk premium on bonds declines.
- Money market funds (MMFs) invest in short-term securities, such as commercial paper, repurchase agreements, CDs, and Treasury bills. The expected returns on MMFs are relatively low, but the risk levels are also low.

SUMMARY (Cont.)

- Closed-end funds are similar to mutual funds, except that they are closed to new investors and to redemptions and their shares are traded on a stock exchange. Exchange-traded funds (ETFs) are designed to mimic particular stock indexes and are traded on a stock exchange. Venture capital (VC) funds use money that they receive from wealthy individuals and some institutional investors to invest in young, growing firms that need equity funding but are not ready or willing to go public. Private equity funds pool money provided by individual and institutional investors and buy majority (or entire) stakes in businesses. Hedge funds sell shares to wealthy individuals and financial institutions and use the proceeds to invest in securities. They are subject to minimal regulation and commonly pursue investments that can achieve high returns but are also exposed to a high degree of risk. Real estate investment trusts (REITs) are closed-end funds that invest in real estate or mortgages.